## REMARKS

This is a full and timely response to the final Office Action of October 12, 2004. Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this First Response, claims 1-19 are pending in this application. Claims 1-3 and 7 are directly amended herein and claims 10-19 are newly added. It is believed that the amendments add no new matter to the present application.

## Response to §102 Rejections

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See, *e.g.*, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983).

### Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §102(b) as being anticipated independently by *Hosick* and *Blount*. Amended claim 1 reads as follows:

> 1. A satellite life extension spacecraft (SLES), comprising:
> a mechanical implement adapted for connection to a parent spacecraft, the parent spacecraft having a parent spacecraft center of mass and a connection point configured to receive the mechanical implement;
> a thruster pod extension device;
> a first thruster and a second thruster attached to the thruster pod extension device, the first thruster adapted for rotation; and
> ***logic configured to launch the SLES from a launch vehicle, guide the SLES to the parent spacecraft, and dock the SLES with the parent spacecraft to create a combined spacecraft by attaching the mechanical implement to the connection point on the parent spacecraft, the logic further configured to calculate a combined spacecraft center mass of the combined spacecraft and to calculate an angular rotation value for firing the first thruster based on the calculated combined center of mass.*** (Emphasis added).

Applicant respectfully asserts that *Hosick* and *Blount* each fail to each disclose at least the features of claim 1 highlighted hereinabove.

Indeed, the highlighted features have been newly added via amendments and it appears that *Hosick* and *Blount* fail to disclose each of the highlighted features claimed in claim 1. Thus, *Hosick* and *Blount* fail to establish suitable grounds for rejecting amended claim 1 in its pending form under 35 U.S.C. §102(b).

For at least the above reasons, Applicant respectfully submits that *both Hosick and Blount are* inadequate to separately anticipate each feature of amended claim 1, and the 35 U.S.C. §102 rejections of claim 1 should, therefore, be withdrawn.

**Claims 2-6**

Claims 2 presently stands rejected in the Office Action under 35 U.S.C. §102 as allegedly being anticipated by *Hosick,* and claims 3-5 presently stand rejected under 35 U.S.C. §103 as unpatentable over *Hosick* in view of *Barskey*, and claim 6 presently stands rejected under 35 U.S.C. §102 as being anticipated by *Blount.* Applicant submits that the pending dependent claims 2-6 contain all features of their respective independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2-6 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

## Response to §103 Rejections

In order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, *e.g.*, *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). In addition, "(t)he PTO has the burden under section 103 to establish a *prima facie* case of obviousness." *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (Citations omitted).

### Claim 7

Claim 7 is rejected under 35 U.S.C. 103 as being unpatentable over *Hosick* in view of *Barskey*. Claim 7 reads as follows:

> 7. A spacecraft positioning method, the method comprising the steps of:
> launching a first spacecraft within docking distance of a second spacecraft, the second spacecraft having a first center of mass;
> guiding the first spacecraft to the second spacecraft;
> attaching the first spacecraft to the second spacecraft to obtain a combined spacecraft;
> calculating a combined spacecraft center of mass , the combined spacecraft center of mass reflecting a change from the first center of mass;
> ***calculating an angle of rotation of a thruster pod about a gimbal related to the combined center of mass calculated; and***
> ***changing the angle of rotation of the thruster to reflect a change from the first center of mass to the combined center of mass.*** (Emphasis added).

Applicant respectfully asserts that the combination of *Hosick* and *Barskey* fails to teach or disclose at least the features of claim 7 highlighted hereinabove.

Indeed, the highlighted features have been newly added via amendments and it appears that *Hosick* and *Barskey* fail to teach or disclose the combination of highlighted

features claimed in claim 7. Thus, *Hosick* and *Barskey* fail to establish suitable grounds for rejecting amended claim 7 in its pending form under 35 U.S.C. §103.

For at least the above reasons, Applicant respectfully submits that the combination of *Hosick* and *Barskey* is inadequate to render amended claim 7 unpatentable, and the 35 U.S.C. §103 rejections of claim 7 should, therefore, be withdrawn.

**Claims 8-9**

Claims 8-9 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over Hosick in view of Barskey. Applicant submits that the pending dependent claims 8-9 contain all features of their respective independent claim 7. Since claim 7 should be allowed, as argued hereinabove, pending dependent claims 8-9 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

**Claim 10**

Claim 10 is newly added and reads as follows:

> 10. A system, comprising:
> a parent spacecraft comprising a connection device, the parent spacecraft having a first center of mass;
> a child spacecraft comprising a capture tool such that the child spacecraft can be launched and attached to the connection device of the parent spacecraft when the parent spacecraft is in Geosynchronous orbit, the child spacecraft further comprising a rotatable thruster and a controller, the controller configured to calculate a second center of mass when the child spacecraft is connected to the parent spacecraft and rotate the thruster based on the calculated second center of mass.

Applicant submits that the cited art fails to teach or suggest each of the features of claim 10 set forth hereinabove. Therefore, Applicant respectfully asserts that newly added claim 10 is allowable.

**Claims 11-19**

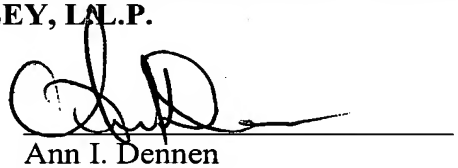
Claims 11-19 are newly added. Applicant submits that the pending dependent claims 11-19 contain all features of their respective independent claim 10. Since claim 10 should be allowed, as argued hereinabove, pending dependent claims 11-19 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

## CONCLUSION

Applicant respectfully requests that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicant's response, the Examiner is encouraged to telephone Applicant's undersigned counsel.

Respectfully submitted,

**THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.**

By: 

Ann I. Dennen
Reg. No. 44,651
(256) 704-3900

Thomas, Kayden, Horstemeyer & Risley, LLP
200 Clinton Avenue
Suite 402
Huntsville, AL 35801